

## REMARKS

### Examiner Interview

On August 26, 2008, Applicant, Lisa Goldberg, and Applicant's representatives, Michael Glenn and Elizabeth Ruzich, conducted an Examiner Interview with Examiner Fertig. Applicant thanks the Examiner for his time and willingness to discuss the differences between the claims and Kealhofer (U.S. Patent No. 6,078,903). Specifically, Applicant explained that Kealhofer discloses a credit risk model that uses only one risk factor: asset (firm) value as shown by reference character 70 in Figure 3. Conversely, the credit risk model recited in Applicant's claims uses two risk variables: firm (asset) value and an incomplete information model.

As discussed during the Interview, Applicant submits herewith three articles for the Examiner's edification. Because these articles were published after January 20, 2004, the filing date for this application, they are not prior art. The first article, *Forecasting Default in the Face of Uncertainty* was published in the fall of 2004. *A Structural Analysis of the Default Swap Market – Part 1 (Calibration)* was published September 11, 2007. Lastly, *A Structural Analysis of the Default Swap Market – Part 2 (Relative Value)* was published February 5, 2008.

### 35 USC 102

Claims 1-5, 8-12, 15-19, and 22-33 are rejected under 35 USC 102(b) as being anticipated by Kealhofer (U.S. Patent No. 6,078,903). Applicant respectfully traverses.

Independent Claims 1, 8, and 15 are amended to recite that the default barrier distribution is determined from the firm's value and an unobservable default barrier. Support for this amendment can be found, for example, on page 10 of the specification.

Amended Claim 1 recites a computer implemented method for generating a term-structure of default probabilities, comprising the steps of at least one computer determining a default process by performing the steps comprising determining a firm's default barrier distribution from a plurality of risk factors comprising said firm's value and an unobservable default barrier, said unobservable default barrier comprising an incomplete information model, determining said firm's conditional default probability over time using said default barrier distribution, determining a pricing trend function using said conditional default probability where said pricing trend function estimates a probability of default of said firm, and said at least one computer generating said term structure of default probabilities for said firm based on said pricing trend function.

This method for generating a term-structure of default probabilities uses an incomplete-information model that recognizes that bond investors are not privy to inside information and therefore cannot be certain about the true level of a firm's value that may trigger default. See, for example, page 4 of the specification. Thus, the default barrier is a distribution and not a fixed point. Furthermore, the default barrier distribution is calculated using two risk factors: firm value and an unobservable default barrier.

Kealhofer discloses a credit model that analyzes portfolio data to predict the probability of default based on: (1) current market values; (2) borrower data; and (3) facility data, which characterizes the individual loan. Column 3, lines 45-62. The probability of default is measured by looking at the relationship between the value of the firm today, its liabilities today, and its volatility. Column 5, lines 18-21. Thus, Kealhofer is a one-risk factor credit model that uses only asset value as a variable in determining the default barrier.

The Examiner asserts that Kealhofer discloses a default barrier distribution in Figure 3 as reference character 70. Applicant respectfully disagrees. Kealhofer

discloses a fixed default barrier as evidenced by reference character 74 (distribution function). Column 6, line 29. Reference character 70 is the asset value (Y-axis) at the horizon date (X-axis at point  $t_H$ ).

Kealhofer does not use an incomplete-information model because Kealhofer assumes that the default barrier is a fixed point. For example, Kealhofer establishes the horizon date cumulative default rate for the loan from expected default frequencies. Column 6, lines 41-42. Thus, Kealhofer cannot predict short term uncertainty.

An analogy can be made between these two methods of predicting default and the difference between a blind man and a man with sight selecting sweaters from a drawer. Kealhofer's single risk-factor model is like a blind man searching for sweaters in a drawer. The blind man can determine based on his sense of touch that the drawer contains sweaters. Claim 1, on the other hand, is based on a two risk-factor model, similar to a man with the senses of touch and sight. This man can ascertain that the drawer contains not only sweaters, but red sweaters. As a result, his analysis is more nuanced than the analysis of a man using only one of his senses.

Finally, Kealhofer discloses using only initial indicators for the credit model such as current market variables, borrow data, and facility data. Column 3, lines 46-59. Applicants disclose, *e.g.* in Claim 5, that the conditional default probability is determined using historical equity prices, debt outstanding, agency ratings, and accounting variables. Historical values are more accurate predictors of default because, for example, a company that has defaulted in the past is more likely to default in the future as compared with a company that has never defaulted.

Because Claims 8 and 15 are substantially similar to Claim 1, and Claims 2-7, 9-14, and 16-33 depend upon Claims 1, 8, or 15, respectively, they are patentable for at least the same reasons.

### CONCLUSION

Applicant respectfully posits that the pending claims have been distinguished from the art of record, and that rejection of the claims has been overcome. Accordingly, Applicant respectfully requests allowance of all claims. The Examiner is invited to please contact Applicant's attorney at (650) 474-8400 should any questions arise.

Respectfully submitted,



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